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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,912	06/15/2001	Robert Malcolm Watson JR.	AIC-00902	1894

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EXAMINER
SNAY, JEFFREY R

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/882,912	WATSON ET AL.	
	Examiner	Art Unit	
	Jeffrey R. Snay	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *48-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 51 and 56-62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly recited term "spot size" and limitation of spatial resolution smaller than a single spot size in order to oversample spots is not supported by the originally filed specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 48-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trulson et al (US 5,578,832) in view of Higuchi et al (EP 0640828).

Trulson et al disclose an optical imaging apparatus for conducting two dimensional fluorescence analysis of an array of probes on a substrate (i.e. a "biochip"). The apparatus comprises a substrate support capable of automated translational movement of the support with respect to the optical elements (see column 8, lines 31-34). With respect to the presently recited drawer structure, it is noted that the translationally moving support of Trulson et al would have constituted a drawer structure in that it is a horizontal support member capable of translational movement. Trulson et al further teach the provision of excitation optics for illuminating the substrate (column 6, lines 12-21), detection optics including a ccd array (paragraph bridging columns 7 and 8), an emission filter positioned beween the sample and the detection optics (column 8,

lines 23-26), and emission collection lenses positioned between the sample and the detector (column 7, ultimate paragraph).

The apparatus of Trulson et al differs from the presently claimed invention in that the Trulson et al device does not utilize a broad spectrum light source in combination with appropriate filters. Instead, Trulson et al choose light sources having appropriate wavelength emissions. However, Higuchi et al, as described in the last Office action, teach a similar apparatus for 2-dimensional fluorescence analysis which utilizes a broad spectrum light source and appropriate filters selected from a filter wheel. A similar filtering structure is taught by Higuchi et al for isolation of emitted light to the detector. Trulson et al do acknowledge the application to multi-labelled schemes requiring different excitation wavelengths (column 6, 3d paragraph). It would have been obvious to one of ordinary skill in the art to substitute the single wavelength source of Trulson et al with a broad spectrum source and selective filter wheel in order to facilitate the capability of selecting appropriate excitation wavelengths for alternative or multi-labelled schemes, as per the teaching of Higuchi et al.

Regarding the presently recited main housing and camera housing, it is noted that it was notoriously well known in the art of optical analysis to enclose all optical elements in light tight housing structures in order to preclude interference from ambient light, as well as to contain the utilized excitation and emission radiations. Such housing structures would have been obvious to the skilled artisan in constructing the device of Trulson et al for the conventional purposes. Trulson et al in fact indicates such a housing containing the detection lenses and filter by the dashed line in Figure 3.

With respect to the presently recited limitation of oversampling by the detection optics, this feature is taught by Trulson et al at column 7, first full paragraph.

With respect to the presently recited number of pixels detected per sample, see Trulson et al at column 6, penultimate paragraph, teaching the simultaneous detection of multiple pixels. Trulson et al further teach that the width of the excitation line determines the spatial resolution of the image (column 7, first paragraph). As such, the geometry of the excitation line, dimensions of each sample, and consequential number of pixels per sample imaged thereby would have constituted result effective variables whose optimization was specifically suggested by Trulson et al in order to maximize image resolution.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

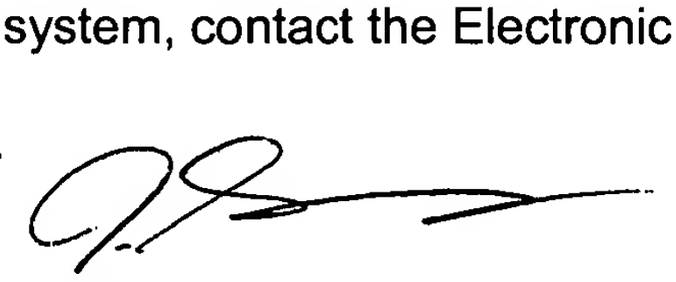
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Snay whose telephone number is (571) 272-1264. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey R. Snay
Primary Examiner
Art Unit 1743

jrs